

Appl. No. 10/003,012
Amdt. dated September 9, 2005
Reply to Office Action of June 9, 2005

REMARKS/ARGUMENTS

Claims 35-37, 39, 41, 45, and 49 are amended, and claim 51 is newly added. Claims 1-3, 5-10, 12-16, and 27-51 are now pending in the application. (Claims 4, 11, and 17-26 were previously canceled.) Applicants respectfully request reconsideration and reexamination of the application as amended.

Initially, Applicants acknowledge with appreciation the Examiner's indication that claims 1-3, 5-10, and 12-16 are allowable and claims 29-31, 37, 38, 41, and 45-50 contain allowable subject matter. Claims 37, 41, and 49 have been rewritten in independent form. Although claim 41 does not include the limitations of intervening claims 39 and 40, Applicants assert that the "temperature sensor" recited in claim 41 renders claim 41 patentable over Sano. Claim 38 depends from claim 37, claims 39 and 40 depend from claim 41, and claim 50 depends from claim 49. Consequently, claims 1-3, 5-10, 12-16, 37-41, 49, and 50 should be in condition for allowance

Claims 27, 28, 35, 36, 39, and 40 were rejected under 35 USC § 102(e) as anticipated by US Patent No. 5,550,482 to Sano ("Sano"). (The patent number 6,710,615 at the beginning of section 2 of the Office Action appears to be a typographical error. 5,550,482 appears to be the intended patent number of Sano.) Applicants respectfully traverse this rejection

Independent claim 27 includes "an energy transmissive element disposed to transmit energy to said probe card *to counteract thermally induced bowing* of said probe card." In the Office Action, Sano's shock absorber 58 was equated with the energy transmissive element of claim 27. Contrary to the assertion in the Office Action, however, Sano's shock absorber 58 does not counteract thermally induced bowing of probe card 40. Rather, as drive mechanism 31 pushes wafer W against bumps 41, Sano's shock absorber 58 merely provides a counterforce (termed a "restoration force" in Sano) that holds bumps 41 against the wafer W. (Sano col. 11, lines 23-33.) Rather than counteracting thermally induced bowing of probe card 40, as would be required to anticipate claim 27, Sano's shock absorber 58 counteracts nothing more than the movement of wafer W into contact with bumps 41. Nor does any teaching in Sano suggest modifying, or provide any guidance on how to modify, the shock absorber 58 to counteract thermally induced bowing. Sano therefore fails to anticipate or render obvious claim 27.

Applicants further assert that Sano's shock absorber 58 does not "transmit energy to" Sano's probe card 40 as would be required to anticipate claim 27. Rather, Sano's shock absorber

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58 does merely provides a stop structure against which probe card 40 is pressed as wafer W is pressed against bumps 41. Thus, in compliance with Newton's third law of motion ("for every action there is an equal and opposite reaction"), as wafer W is pressed against bumps 41 causing probe card 40 to press against shock absorber 58, the shock absorber 58 merely provides an equal and opposite reaction force (the "restoration force" mentioned at lines 28 and 29 in column 11 of Sano). In other words, the shock absorber 58 passively presses back. The shock absorber 58 does not transmit energy to the probe card 40. For this additional reason, Sano does not anticipate claim 27.

Claim 28 states that "said energy transmissive element is disposed to affect a temperature on said device side of said probe card." As discussed above, Sano's shock absorber 58 was equated in the Office Action with the energy transmissive element of claims 27 and 28. The Office Action also equated Sano's mounting stand 3 with the electronic device of claims 27 and 28. The device side of Sano's probe card 40 is therefore the bottom (in Figure 7) surface of probe card 40 along which bumps 41 are disposed. Sano's shock absorber 58 does not affect any temperature much less a temperature on the bottom surface of probe card 40. Sano thus fails to anticipate claim 28.

Claim 35 includes a "temperature adjustment means for *selectively adjusting a temperature* at at least one of said device side and said second side to reduce a temperature gradient between said device side of said probe card and said second side of said probe card." Sano mentions heater 57 (which was equated in the Office Action with the temperature adjustment means of claim 35) only twice and says nothing about the operation of heater 57 other than that heater 57 is turned on. (Sano col. 10, lines 50-54.) Nowhere does Sano teach or suggest that heater 57 is able to or should be configured to adjust *selectively* a temperature on either side of probe card 40. Indeed, Sano never mentions *selecting* a temperature on either side of probe card 40. Claim 35 is therefore patentable over Sano.

Claim 36 as well as new claim 51 depend from claim 35 and are therefore also patentable over Sano. Those claims also recite additional features not taught or suggested by Sano.

For example, claim 51 states that "said temperature adjustment means adjusts a temperature at at least one of said device side and said second side *during testing* of said electronic device." Nowhere does Sano teach or suggest "adjusting a temperature" on either side of probe card 40 "during testing" of wafer W. New claim 51 is thus patentable over Sano.

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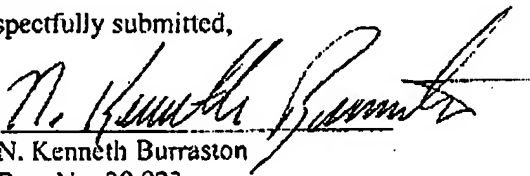
As discussed above, claims 39 and 40 now depend from claim 41, which was identified in the Office Action as containing allowable subject matter, and therefore should be in condition for allowance.

In closing, Applicants note that not all of claims 29-31, 37, 38, 41, and 47-50 require "energy transmissive elements for affecting a temperature on the device side and second side of the probe card and a temperature sensor for monitoring the temperatures on the first device side and a second side of the probe card." Thus, those claims should not be so limited. Rather, each of those claims is limited only by the requirements expressly stated in those claims, which Applicants assert render those claims patentable over Sano and the other prior art of record.

In view of the foregoing, Applicants submit that the all pending claims are allowable, including withdrawn claims 32-34 and 42-44, which should now be rejoined. If the Examiner believes that a discussion with Applicants' attorney would be helpful, the Examiner is invited to contact the undersigned at (801) 323-5934

Respectfully submitted,

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